



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/541,765	04/03/2000	Mareike Klee	PHD 99.046	4722
24737	7590	05/21/2004	EXAMINER	
PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510			THOMAS, ERIC W	
			ART UNIT	PAPER NUMBER
			2831	

DATE MAILED: 05/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

AP

**Office Action Summary**

Application No.

09/541,765

Applicant(s)

KLEE ET AL.

Examiner

Eric W Thomas

Art Unit

2831

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 March 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 3-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 2831

**Introduction:**

The examiner acknowledges, as recommended in M.P.E.P. 707.04, the applicant's submission of the amendment dated 3/24/04. At this point, claims 1, 3-12 have been amended. Thus, claims 1, 3-12 are pending in the instant application.

**DETAILED ACTION**

***Claim Objections***

1. Claim 10 is objected to because of the following informalities:  
Claim 10, line 9, change "on" to --one--. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1, 3-11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 1, 9-11, the limitation, "at least one thin film dielectric of a thickness in the range of about 0.25-0.75 mm" is not supported in the specification. The examiner interpreted this limitation as if the thickness of the at least one thin film dielectric is in the range of about 0.25 – 0.75 μm.

***Claim Rejections - 35 USC § 102***

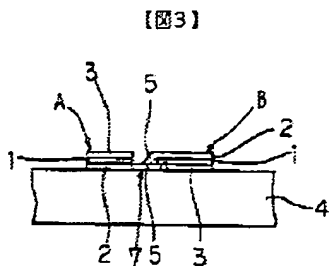
3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 6, 9-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Konushi et al. (JP 10-335179).



Konushi et al. disclose in fig. 3, a ceramic passive component that comprises a carrier substrate (4), at least one first electrode (2) formed of a metal material (paragraph 34) and having a first surface disposed, directly on the substrate, at least one thin film dielectric (1) of a thickness in the range of about 0.25-0.75  $\mu\text{m}$  (paragraph 29) having a first surface disposed on a second surface of the at least one first electrode opposing said first surface of the at least one first electrode and at least one second electrode (3) disposed on a second surface of the at least one dielectric

Art Unit: 2831

opposing said first surface of the at least one dielectric (1); wherein the at least one dielectric comprises a ferroelectric ceramic material with a voltage-dependent relative dielectric constant  $\epsilon_r$  (inherent feature of the claimed material— $\text{SrTiO}_3$ ), and wherein the ferroelectric ceramic material with a voltage-dependent dielectric constant is a  $\text{Ba}_{1-x}\text{Sr}_x\text{TiO}_3$  wherein  $x = 1$  (see paragraph 35).

Regarding claim 6, Konushi et al. disclose the carrier substrate comprises a ceramic material (see paragraph 33).

Regarding claim 9, Konushi et al. disclose capacitive component comprising: a ceramic passive component which comprises a carrier substrate (4), at least one first electrode (2) formed of a metal material and having a first surface disposed directly on the substrate, at least one thin film dielectric (1) of a thickness in the range of about 0.25-0.75  $\mu\text{m}$  (paragraph 29) having a first surface disposed on a second surface, opposed to said first surface of the at least first electrode, and at least a second electrode (3) disposed on a second surface of the at least one thin film dielectric, opposed to said first surface of the at least one dielectric, wherein the at least one thin film dielectric (5) comprises a ferroelectric ceramic material with a voltage-dependent relative dielectric constant  $\epsilon_r$  (inherent feature of the claimed material— $\text{SrTiO}_3$ ).

The recitation "a voltage-controlled oscillator" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are

Art Unit: 2831

able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Regarding claim 10, Konushi et al. disclose capacitive component comprising: a ceramic passive component which comprises a carrier substrate (4), at least one first electrode (2) formed of a metal material and having a first surface disposed directly on the substrate, at least one thin film dielectric (1) of a thickness in the range of about 0.25-0.75  $\mu\text{m}$  (paragraph 29) having a first surface disposed on a second surface, opposed to said first surface of the at least first electrode, and at least a second electrode (3) disposed on a second surface of the at least one thin film dielectric, opposed to said first surface of the at least one dielectric, wherein the at least one thin film dielectric (5) comprises a ferroelectric ceramic material with a voltage-dependent relative dielectric constant  $\epsilon_r$  (inherent feature of the claimed material— $\text{SrTiO}_3$ ).

The recitation “filter” has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Regarding claim 11, Konushi et al. disclose capacitive component comprising: a ceramic passive component which comprises a carrier substrate (4), at least one first electrode (2) formed of a metal material and having a first surface disposed directly on

Art Unit: 2831

the substrate, at least one thin film dielectric (1) of a thickness in the range of about 0.25-0.75  $\mu\text{m}$  (paragraph 29) having a first surface disposed on a second surface, opposed to said first surface of the at least first electrode, and at least a second electrode (3) disposed on a second surface of the at least one thin film dielectric, opposed to said first surface of the at least one dielectric, wherein the at least one thin film dielectric (5) comprises a ferroelectric ceramic material with a voltage-dependent relative dielectric constant  $\epsilon_r$  (inherent feature of the claimed material— $\text{SrTiO}_3$ ).

The recitation “delay line” has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Regarding claim 12, Konushi et al. disclose a capacitive component comprising: a carrier substrate (4), at least one first electrode (2) formed of a metal material and having a first surface disposed directly on the substrate, at least one thin film dielectric (1) of a thickness in the range of about 0.25-0.75  $\mu\text{m}$  (paragraph 29) with a voltage-dependent relative dielectric constant  $\epsilon_r$  (inherent feature of the claimed material— $\text{SrTiO}_3$ ) having a second surface opposed to said first surface of the at least one first electrode, and at least a second electrode (3) disposed on a second surface of the at

Art Unit: 2831

least one thin film dielectric, opposed to said first surface of the at least one dielectric, wherein the at least one thin film dielectric (5) as a capacitive component.

5. Claims 1, 3-5, 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Konushi et al. (US 6,104,597).

Konushi et al. disclose in fig. 9A, a ceramic passive component that comprises a carrier substrate (4), at least one first electrode (2) formed of a metal material (col. 5 lines 40-50) and having a first surface disposed, directly on the substrate, at least one thin film dielectric (1) of a thickness in the range of about 0.25-0.75  $\mu\text{m}$  (col. 5 lines 5-15) having a first surface disposed on a second surface of the at least one first electrode opposing said first surface of the at least one first electrode and at least one second electrode (3) disposed on a second surface of the at least one dielectric opposing said first surface of the at least one dielectric (1); wherein the at least one dielectric comprises a ferroelectric ceramic material with a voltage-dependent relative dielectric constant  $\epsilon_r$  (inherent feature of the claimed material— $\text{SrTiO}_3$ ), and wherein the ferroelectric ceramic material with a voltage-dependent dielectric constant is a  $\text{Ba}_{1-x}\text{Sr}_x\text{TiO}_3$  wherein  $x = 1$  (see col. 5 lines 60-67).

Regarding claim 3, Konushi et al. disclose in fig. 3, the second electrode includes a first electrically conducting layer (9) and a second electrically conducting layer (3).

Regarding claim 4, Konushi et al. disclose the first electrically conducting layer of the at least one second comprises Cr (see col. 5 lines 50-55)

Regarding claim 5, Konushi et al. disclose the second electric conducting layer of the at least one second electrode comprises a metal material (see col. 5 lines 40-50).



Art Unit: 2831

Regarding claim 8, Konushi et al. illustrate in fig. 9A, a protective layer (4) is laid over the entire component.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Konushi et al. (US 6,104,597) in view of Klee et al. (US 6,125,027).

Konushi et al. disclose the claimed invention except for the at least one dielectric layer multiple layers.

Klee et al. teach that it is common in the capacitor art to form a dielectric layer from multiple layers (see col. 3 lines 45-55).

Art Unit: 2831

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the capacitor of Konushi et al. by using multiple dielectric layers as taught by Klee et al., since such a modification would improve the electrical properties of the dielectric layer.

### ***Response to Arguments***

9. Applicant's arguments with respect to claims 1, and 3-12 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

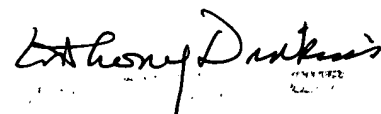
Art Unit: 2831

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric W Thomas whose telephone number is (571) 272-1985. The examiner can normally be reached on M, T, Sa 9:00AM - 9:30PM; W, Th, F 5:30PM-10:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (571) 272-1984. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ewt



ANTHONY DINKINS  
PRIMARY EXAMINER